

TB NOTES



TB Notes 2, 2016 April 28, 2016

Notes from the Director

Dear Colleague:

Last month, the Division of Tuberculosis Elimination (DTBE) released preliminary TB surveillance data for the United States. According to data from the CDC National TB Surveillance System, TB rates in the United States remained approximately [3.0 cases per 100,000 persons during 2013–2015](#). In 2015, a total of 9,563 TB cases were reported. This represents an increase of 157 cases from the 9,406 cases reported in 2014.

Although we have seen two decades of declining incidence, progress toward TB elimination in the U.S. appears to have stalled. We know there has been much success in the early diagnosis, isolation, and treatment of those with infectious TB disease. However, to move the needle toward continued declines in TB incidence in the U.S., we must also focus on diagnosing persons with latent TB infection (LTBI) and treating them before they can progress to active TB disease.

The U.S. Preventive Services Task Force (USPSTF) supported this expanded approach toward TB elimination with its recent draft recommendation statement. The USPSTF issued a [draft recommendation statement](#) that calls for testing for adults who are at increased risk of having latent TB infection. The period for public comments on the statement was March 8th through April 4th.

DTBE has announced a [funding opportunity](#) to support these efforts. The project seeks feasible and scalable programs that expand LTBI testing and treatment to persons at high risk. The announcement was released on February 29th, but there is still time to apply. The closing date for applications is May 4th.

Philip LoBue, MD, FACP, FCCP

Director,
Division of Tuberculosis Elimination
National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention

Highlights from State and Local Programs

Heartland National TB Center Offers Web-Series, [Effects of Co-morbidities on TB Nurse Case Management](#)

Heartland National TB Center (HNTC) is offering a five-part web series entitled *Effects of Co-morbidities on TB Nurse Case Management*. This series is intended for nurses and health care staff who care for persons diagnosed with TB and one or more co-morbidities.

The goal of this web series is to provide information from experts in the field of the identified co-morbidity which can affect TB treatment. Each session will also include a case study of a patient diagnosed with TB and an identified co-morbidity by a TB nurse expert to highlight considerations in case management.

Each session will provide 1.0 nursing continuation education contact hours.

Registration is FREE and required for each session; applicants will receive notification of their enrollment status via email. Additional details can be found on our website at www.heartlandntbc.org/training/.

[Part I: Effects of Co-morbidities on TB Nurse Case Management](#), March 24, 2016 (Archived)

Catalina Navarro, RN, BSN and Debbie Onofre, RN, BSN are nurse consultants and educators at Heartland National TB Center with a combined total of 20 years' experience in TB case management.

[Part II: Substance Abuse](#), April 12, 2016 (Archived)

Dr. Heather Gotham is a licensed clinical psychologist and Associate Research Professor within the Collaborative for Excellence in Behavioral Health Research and Practice. She leads a Substance Abuse and Mental Health Services Administration (SAMHSA)-funded project to implement Screening, Brief Intervention, and Referral to Treatment (SBIRT) for substance use into nursing and social work programs.

[Part III: Behavioral Health](#), May 18, 2016 (Open)

Dr. Carolyn Harvey is currently the Assistant Professor of Community Health and Preventive Medicine at UT Health Northeast. She is also the Program Manager for the Behavioral Health Integration Program where her primary role is to assist residents, primary care providers, and clinic staff in the management of mild to moderate behavioral health disorders within the ambulatory clinic setting.

[Part IV: Diabetes](#), November 14, 2016 (Open)

Dr. Adelita Cantu is an Associate Professor with the University of Texas Health Science Center San Antonio (UTHSCSA) and President of the American Diabetes Association Community (ADA) Leadership Board.

[Part V: HIV/AIDS](#), December 1, 2016 (Open)

Speaker to be announced, provided by the South Central AIDS Education and Training Center (SCAETC).

Submitted by Jessica Quintero, M.Ed., Heartland National TB Center

Corrections Liaison Partnership Committee

CDC has recommended that a corrections liaison be appointed by the State TB program for each state and territory in the U.S. The National TB Controllers Association (NTCA) Corrections Liaison Partnership Committee is a resource for states and correctional liaisons. This group maintains a [List of Corrections Liaisons by State](#). The list was last published in July 2015 and is currently under revision.

Additionally, the liaisons hold quarterly calls to discuss working through the Public Health Corrections Liaison Competencies and identifying how they work with TB programs, correctional facilities, and the corrections culture. Items covered in these calls include case scenarios, how to work with inmates, and challenges with medical and custody staff. Callers have the opportunity to ask questions and identify training opportunities within each state and at national conferences. The group has discussed tips for speaking at sheriff and jail conferences and how to use case scenarios to tailor training to specific audiences. They meet quarterly and keep the National Corrections Committee apprised of the workgroup's initiatives. If you are a correctional liaison and would like to be added to the liaison list and/or the quarterly calls, please contact [Ellen Murray](#).

Submitted by Ellen Murray, BSN, RN, Southeastern National Tuberculosis Center

NTCA Corrections Workgroup Activities

For those searching for TB materials to use in correctional settings, the NTCA Corrections Education and Training Workgroup developed a new repository of materials, called [CorrectTB](#). The team is looking for additional materials to add to the site. If you have tools or educational materials that you find useful in a correctional setting, please send them to the Corrections Committee at ntca@tbcontrollers.org with the subject line "CorrectTB Resource(s)."

Submitted by Ann Sittig, RN, PHN, MPH, Minnesota Department of Health and Molly Dowling, MPH, CHES, DTBE

3HP Explored in a National Webinar

On March 17, 2016, the Curry International Tuberculosis Center (CITC) hosted a national webinar titled, *INH and Rifapentine Treatment for LTBI: Expert Opinions About 3HP Utilization*. The 90-minute event featured a panel of experts discussing key issues faced by healthcare

providers when using 3 months of isoniazid and rifapentine once weekly (3HP) to treat latent TB infection (LTBI).

The topic of the 3HP treatment protocol is closely aligned with the national TB elimination strategy of reducing TB cases by addressing the reservoir of LTBI. Training needs assessments conducted by CITC have long indicated a strong interest among health providers for more information about the 3HP regimen. Nevertheless, when CITC staff opened registration for the webinar, they were astonished by the overwhelming response; there were over 900 registrants within the first 2 weeks.

The live webinar featured **Heidi Behm, RN, MPH**, TB Controller for the Oregon Health Authority, who facilitated an expert panel comprised of: **Marcos Burgos, MD**, New Mexico Department of Health; **Neha Shah, MD, MPH**, CDC/California Department of Public Health; and **Mai Vu, PharmD**, San Francisco VA Medical Center.

After Dr. Shah provided an overview of findings from clinical studies related to 3HP, the panel directly explored an array of questions often posed by providers who are using (or considering) the 3HP regimen for their patients: How should missed doses be handled?; What are the most common drug-drug interactions?; How can side effects be minimized?; How does 3HP compare with other LTBI regimens in terms of hepatotoxicity?; How does 3HP work for special patient populations such as those who are elderly, diabetic, HIV-positive, methadone users, coumadin users, and patients on dialysis?

During the webinar, participants commented about the U.S. Preventive Services Task Force [Draft Recommendation Statement on LTBI Screening](#) that will recommend testing for LTBI in at-risk adults. This recommendation could pave the way for insurance coverage of TB testing.

According to data gleaned from 411 participant evaluation responses, three-fourths of attendees (77%) were nurses who work for TB control/public health programs. The webinar was highly-rated by participants (average 8.94 of a maximum of 10), who participated from all 50 states. Many attendees indicated the webinar content validated their current experience with 3HP; others commented that the webinar left them better-equipped to initiate a 3HP program in their facilities. As one participant noted, “We are in the process of implementing 3HP in our ambulatory care setting, so this was very helpful in terms of ideas for protocols, monitoring, etc.”

The [INH and Rifapentine Treatment for LTBI: Expert Opinions About 3HP Utilization](#) webinar is archived on the CITC website and available for viewing.

Submitted by Kelly Musoke, MPH, Curry International Tuberculosis Center

Office of the Director Updates

CDC Epidemic Intelligence Service Conference

The CDC Epidemic Intelligence Service (EIS) Conference this year is May 2nd through May

5th in Atlanta, GA. There will be a TB session the morning of Tuesday, May 3rd, including the following presentations:

- Jorge Luis Salinas, MD (DTBE), Factors Associated with Poor Outcomes Among Patients with Multidrug-Resistant Tuberculosis — Four U.S. Sites, 2000–2007
- Diya Surie, MD (Division of Global HIV/AIDS and TB), Tuberculosis Hotspots: Cluster of Cases with Matching *Mycobacterium tuberculosis* Genotype — Gaborone, Botswana, 2012–2015
- Colleen Scott, DrPH, MPH, CHES (Division of Global HIV/AIDS and TB), A Comparison of Treatment Response Time between *Mycobacterium bovis* and *Mycobacterium tuberculosis* Disease
- Jacklyn Wong, PhD (California Department of Public Health, CDC Division of Scientific Education and Professional Development), Progression to Active Tuberculosis Among Immigrants and Refugees with Abnormal Chest Radiographs Conducted Overseas — California, 1999–2012

Additionally, this year there will be a special lunch session titled *Using Advanced Molecular Data to Direct Public Health Action*. This session is scheduled for Tuesday, May 3rd at noon. Speakers will include Benjamin Silk, PhD, DTBE.

Submitted by Carla Winston, PhD, DTBE

Communications, Education, and Behavioral Studies Branch Updates

Big Improvements to DTBE's Website Are Coming Soon

Have you ever visited a website on your smartphone or tablet and quickly become frustrated with having to resize the page, scroll, and search for basic content? If so, the site you visited was probably not in responsive design. Responsive design is an approach to web design that adapts the layout to the device, whether it's a mobile phone, tablet, or desktop monitor.

The percent of DTBE website users coming from mobile devices has been steadily increasing over the years, while the percent of users from desktops has been decreasing. In fact, mobile users will soon be the majority user group. In May 2016, the DTBE website will transition to responsive design to ensure all users have an optimal viewing and interaction experience.

In addition to design improvements, health communication staff in the Communications, Education, and Behavioral Studies Branch (CEBSB) conducted usability assessments to inform improvements in website layout, organization, and navigation. DTBE staff, and a group of 2016 TB Conference attendees, completed three different web usability assessments. Together, these assessments provide insight into the findability of website information, how users think content should be organized, and their first impressions of a redesigned homepage. The findings directly inform decisions about topic labeling, website navigation paths, and homepage layout.

Web metrics have also informed this process. Data from the American Customer Satisfaction

Index (ACSI) and Adobe Site Catalyst metrics provide valuable information such as which pages are most viewed, how long users spend on pages, and file download frequencies. CEBSB also analyzed results from open response items to learn where users had difficulties finding what they were looking for.

By understanding DTBE audiences and listening to their information needs, assessing the usability of content, and applying best practices of responsive design, CEBSB staff are working to ensure that users will more easily find the information they are looking for on the [DTBE website\(https://www.cdc.gov/tb/default.htm\)](https://www.cdc.gov/tb/default.htm).

Submitted by John Parmer, PhD, DTBE



New Infographic on Latent TB Infection

TB cannot be eliminated in the U.S. without increased efforts to test and treat latent TB infection among high-risk groups. Learn more in CEBSB's new [infographic](#) on latent TB infection. Supporting graphics focusing on latent TB infection treatment regimens, cost-effectiveness, at-risk populations, and testing will be available soon to use in web, print, and social media messages.

Submitted by Leeanna Allen, MPH, DTBE

World TB Day Media Recap



The TB community came together on social media to raise awareness on World TB Day. #EndTB and #WorldTBDAY were both trending topics on Twitter. The World TB Day [Thunderclap](#) was a great success, with over 223 supporters

sending the “Unite to End TB” message to 1,575,843 people. “World TB Day” was mentioned 36,791 times on Twitter alone. At CDC, 16 social media accounts across the agency sent World TB Day messages through Twitter, Facebook, and Instagram. Traditional media such as [CNN](#), [Associated Press](#), [Health Day](#), [Washington Post](#), [Wall Street Journal](#), and [Huffington Post](#) also published articles on World TB Day. Stay tuned to TB Notes for information on World TB Day 2017!

Submitted by Leeanna Allen, MPH, DTBE

Data Management, Statistics, and Evaluation Branch (proposed) Updates



TB Involvement in the CDC National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP) Epidemiologic and Economic Modeling Agreement (NEEMA)

In fiscal year (FY) 2015, NCCHSTP began a project with Emory University, the Harvard University Prevention Policy Modeling Lab, and the University of California at San Francisco (UCSF) to model epidemiologic and economic outcomes of HIV, hepatitis, STDs, and TB in all populations and of HIV/STDs in school-age populations. The project is a 5-year cooperative agreement, with grantees funded through annual awards; approximately \$3.5 million was awarded in FY15 and \$4.7 million in FY16. It is hoped that NEEMA will be as useful and productive to achieving TB elimination as are neem trees to producing wood, shade, medicine, honey, insecticide, oil, animal feed, and fuel. Suzanne Marks, MPH, MA, and Andrew Hill, PhD, represent DTBE in managing the TB projects.

FY15 TB NEEMA projects focused on:

1. Identifying and Recruiting Hard-to-Reach Immigrant Populations for TB Screening;
2. Estimating the Cost Effectiveness of Targeted TB Testing and LTBI Treatment in High-Risk US-based Populations; and
3. Modeling of TB Transmission in the United States.

The first activity was conducted by UCSF. It resulted in a systematic literature review of the TB testing cascade, including costs of each step, for foreign-born populations. In FY16, they added populations with homelessness or injecting-drug use.

For the second activity, UCSF developed models using California-specific data, and Harvard updated a model focusing on TB targeted testing and treatment for LTBI within populations at TB risk. The latter group also modeled the impact of test types within populations having medical risks.

UCSF estimated time to TB elimination by population in California. They collaborated with the California and San Francisco Departments of Public Health and the Curry International Tuberculosis Center on modeling topics and data inputs. Additionally, Harvard developed a U.S. model of TB transmission that accounts for multiple risk factors and populations over time. In FY16, Emory developed a model for each of the four states contributing most to U.S. TB morbidity (California, New York, Texas, and Florida). They have engaged collaborators from the respective states to assist.

In FY16, Harvard added modeling of international TB control efforts, and UCSF added modeling of optimal strategies for TB testing and LTBI treatment among U.S. immigrants.

The above-mentioned models will facilitate:

- Comparing TB outcomes and time to elimination by area and by subpopulation, including those with medical risk factors;
- Evaluating changes in TB testing procedures, in TB epidemiology in countries contributing to U.S. TB, and in policies; and
- Identifying interventions that could increase cost effectiveness, decrease TB incidence, and accelerate elimination.

TB NEEMA researchers presented five posters at the International Union against TB and Lung Disease-North American Region/National Tuberculosis Controllers Association 2016 TB Conference and will present three posters at the 2016 American Thoracic Society Conference. Several journal articles have already been drafted.

On the horizon for development are online user interfaces that will enable TB programs to enter their risk populations, diagnostic algorithms, treatment regimens, and other location-specific data to obtain cost-effectiveness and time to TB elimination estimates.

Submitted by Suzanne Marks, MPH, MA, DTBE and Andrew Hill, PhD, DTBE

Laboratory Branch Updates + -

Drug-Susceptibility Testing Reference Center

The laboratory plays a critical role in the diagnosis of TB and detection of drug resistance. Performing drug-susceptibility testing (DST) for *Mycobacterium tuberculosis* complex (MTBC) is technically demanding and maintaining proficiency to perform testing and interpret results is critical to ensuring accuracy. Public health laboratories (PHL) are an important provider of TB DST services, but have a range of TB DST volumes with some laboratories testing less than the currently recommended volume of at least 50 isolates/year for maintaining technical competency.

To address the need for TB DST in lower volume public health laboratories, DTBE, in collaboration with the Association of Public Health Laboratories (APHL), stood up a DST Reference Center for MTBC at the California Microbial Diseases Laboratory (MDL) in March 2015. The primary purpose of the DST Reference Center is to provide a resource for quality-assured first-line DST for U.S. public health laboratories with low volumes of DST while also providing additional access to molecular testing for rifampin and isoniazid and second-line DST when needed. The reference center at MDL serves as an extension of the CDC DTBE Laboratory Branch (LB) Reference Laboratory and provides services that are complementary to those at CDC for low volume public health laboratories.

As of February 2016, a total of 15 low to moderate volume public health laboratories have enrolled for testing services through the DST Reference Center. The center has performed testing for 214 samples at no cost to the submitting laboratory with the exception of shipping

costs. The DST Reference Center has achieved a mean turnaround time for results reporting of 18 days for first-line drugs and 2 days for sequencing. When MDL detects rifampin resistance, algorithms are in place to work collaboratively with the DTBE/LB to ensure referral of isolates for the full panel of testing available through the Molecular Detection of Drug Resistance (MDDR) service at CDC. Evaluation of the service, including customer satisfaction, will be performed within the next few months. Anecdotally, the service provided by MDL has been well received. For additional information on enrollment eligibility, please contact Anne Gaynor with APHL at 240-485-2739 or anne.gaynor@aphl.org.

Submitted by Angela M. Starks, PhD, DTBE

New CDC Publications

Buss BF, Keyser-Metobo A, Rother J, Holtz L, Gall K, **Jereb J**, Murphy CN, Iwen PC, Robbe-Austerman S, Holcomb MA, Infield P. [Possible airborne person-to-person transmission of *Mycobacterium bovis*—Nebraska 2014–2015](#). MMWR Morb Mortal Wkly Rep 2016;65:197–201.

Farhat MR, Sultana R, Iartchouk O, Bozeman S, Galagan J, Sisk P, Stolte C, Nebenzahl-Guimaraes H, Jacobson K, Sloutsky A, Kaur D, **Posey J**, Kreiswirth BN, Kurepina N, Rigouts L, Streicher EM, Victor TC, Warren RM, van Soolingen D, Murray M. [Genetic determinants of drug resistance in *Mycobacterium tuberculosis* and their diagnostic value](#). Am J Respir Crit Care Med 2016. Epub ahead of print.

Marks SM, Hirsch-Moverman Y, Salcedo K, Graviss EA, Oh P, Seaworth B, Flood J, **Armstrong L**, Armitage L, **Mase S**; TB Epidemiologic Studies Consortium. [Characteristics and costs of multidrug-resistant tuberculosis in-patient care in the United States, 2005–2007](#). Int J Tuberc Lung Dis 2016;20:435–41.

Moro RN, **Borisov A**, Saukkonen J, **Khan A**, Sterling TR, Villarino ME, **Scott NA**, Shang N, Kerrigan A, **Goldberg SV**. [Factors associated with non-completion of latent tuberculosis infection treatment: experience from the PREVENT TB trial in the United States and Canada](#). Clin Infect Dis 2016;pii:ciw126. Epub ahead of print.

Salinas JL, **Mindra G**, **Haddad MB**, **Pratt R**, **Price SF**, **Langer AJ**. [Leveling of tuberculosis incidence—United States, 2013–2015](#). MMWR Morb Mortal Wkly Rep 2016;65:273–8.

Velásquez GE, **Cegielski JP**, Murray MB, Yagui MJA, Asencios LL, Bayona JN, Bonilla CA, Jave HO, Yale G, Suárez CZ, Sanchez E, Rojas C, Atwood SS, Contreras CC, Cruz JS, Shin SS. [Impact of HIV on mortality among patients treated for tuberculosis in Lima, Peru: a prospective cohort study](#). BMC Infect Dis 2016;16: article no. 45.

Weinberg MP, Cherry C, Lipnitz J, Nienstadt L, King-Todd A, **Haddad MB**, Russell M, Wong D, Davidson P, McFadden J, Miller C. [Tuberculosis among temporary visa holders working in the tourism industry—United States, 2012–2014](#). MMWR Morb Mortal Wkly Rep 2016;65:279–81.

